Potential Effect of the New York City Policy Regarding Sugared Beverages

TO THE EDITOR: New York City recently proposed a policy that would prohibit the sale of most sugar-sweetened beverages in quantities of more than 16 oz at all restaurants, including fast-food restaurants.1 These beverages have been implicated as a contributor to obesity. We evaluated the potential effect of this policy on the consumption of calories from beverages at fast-food restaurants.

We combined data from two separate studies in which receipts were collected from consumers at fast-food restaurants, including 1624 receipts that listed a beverage (excluding milk shakes) from three different fast-food restaurants in four separate cities (New York City; Newark, New Jersey; Philadelphia; and Baltimore) from 2008 through 2010.2-4 With these receipts, the corresponding survey from both studies, and data from the website of each restaurant, we were able to ascertain the number of calories in each beverage that was purchased.

If this policy were implemented, the maximum size for all sugar-sweetened beverages available for purchase would be 16 oz. We calculated the change in the number of calories from sugar-sweetened beverages per transaction if various proportions of randomly selected consumers who purchased a beverage subject to the policy bought the 16-oz size rather than a larger size; all other consumers were assumed to purchase two 16-oz beverages (32 oz in total) (Fig. 1). For each possible proportional change examined, 1000 bootstrapped simulations were performed to generate 95% confidence intervals. We performed these simulations for all beverages in the transaction and again for just sugar-sweetened beverages that were subject to the policy.

Of all the beverages purchased, 62% would be subject to the policy. Without the policy, the mean (±SD) calories from sugar-sweetened beverages per consumer was 197±113 kcal. If 100% of consumers switched to 16 oz and 0% of consumers purchased 32 oz, the resulting change would be −63 kcal (95% confidence interval [CI], −61 to −66) per consumer. Only if 80% or more of consumers purchased 32 oz

Figure 1. Changes in Calories from Sugar-Sweetened Beverages, According to Transaction.

The changes in calories from sugar-sweetened beverages purchased at fast-food restaurants are shown when consumers switch to a 16-oz beverage, with the remainder assumed to purchase 32-oz, or two 16-oz beverages. Vertical bars indicate 95% confidence intervals.
would calories from sugar-sweetened beverages purchased increase. When we considered only purchases of sugar-sweetened beverages subject to the policy, the mean calories from the beverages was 230±86 kcal per consumer. The difference in calories if 100% of these consumers switched to 16 oz would be –74 kcal (95% CI, –78 to –71) per consumer.

We provide data on a number of possible consumer responses to the policy on sugar-sweetened beverages at fast-food restaurants. In most but not all of our simulations, the policy appears to be associated with a decrease in calories from sugar-sweetened beverages purchased at fast-food restaurants.

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